LONG-TERM FISH MONITORING IN THE GRAND CANYON

The Arizona Game and Fish Department has been annually sampling the mainstem Colorado River since 2000. This long-term monitoring is essential to provide managers and stakeholders with information on the species composition, status, and trends of fish populations in Glen, Marble, and Grand Canyons, as well as to inform and manage Glen Canyon Dam operations. The project uses standardized, non-lethal, electrofishing to provide indices of relative abundance for several species of fish, including: rainbow trout, brown trout, common carp, native flannelmouth sucker and native bluehead sucker. The status and trend information is necessary to further understand mechanisms controlling fish population dynamics, determine effects of dam operations, and identify threats presented by nonnative fishes. Our goals is to monitor native and nonnative fish within the Colorado River downstream of Glen Canyon Dam to Lake Mead.

OBJECTIVES

To obtain a representative sample of fish within the Colorado River between Lees Ferry and Lake Mead, to determine status and trends of native and nonnative fish.

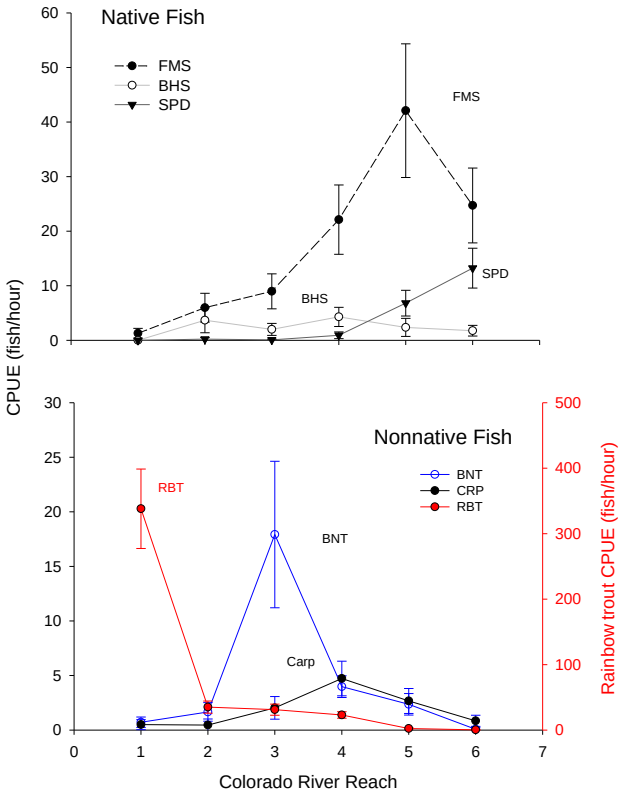
APPROACH

- Conduct two motor river trips during the springtime and one fall trip for the System Wide Electrofishing Project.
- Use two 16-foot sport boats for nighttime electrofishing at approximately 500 sites randomly sampled throughout the river from Lees Ferry to Lake Mead.
- Collect information on captured fish including: species identification, length, weight, reproductive status, and tag number.
- Perform standardized angling to detect fish not effectively captured by electrofishing (e.g. channel catfish).

UPDATE AND PRELIMINARY RESULTS

Nonnative fish (rainbow trout) dominate the fish community in the upper reaches of the Colorado River while native fish species (flannelmouth sucker and bluehead sucker) begin to dominate the fish community below the confluence with the Little Colorado River (river mile 61.5). In 2012 and 2013, wild endangered razorback suckers were captured, the first documented in 20 years.

Figure 1. Average catch per unit effort (fish/hrs) electrofishing, by Colorado River reach of native (top) and nonnative (bottom) fish.



PROJECT CONTACTS

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MORE INFORMATION

Arizona Game & Fish: Wildlife Views Field Note

Bluehead Sucker
http://www.azgfd.gov/i_e/ee/resources/field_notes/fish/bluehead_sucker.pdf

Flannelmouth Sucker
http://www.azgfd.gov/i_e/ee/resources/field_notes/fish/flannelmouth_sucker.pdf

Humpback Chub (coming January/February 2015 issue)

Arizona Game & Fish: Sport Fish

Rainbow Trout

http://www.azgfd.gov/h_f/fish_rainbow_trout.shtml

Brown Trout

http://www.azgfd.gov/h_f/fish_brown_trout.shtml

http://www.azgfd.gov/i_e/ee/resources/field_notes/fish/brown_trout.pdf

Black Bullhead

http://www.azgfd.gov/h_f/fish_black_bullhead.shtml

Channel Catfish

http://www.azgfd.gov/h_f/fish_channel_catfish.shtml

Collaborators:

Grand Canyon Monitoring and Research Center (USGS) http://www.gcmrc.gov/

US Fish and Wildlife Service http://www.fws.gov/southwest/fisheries/azfwco/index.html

National Park Service http://www.nps.gov/grca/naturescience/fish.htm

Glen Canyon Dam Adaptive Management Program http://www.gcdamp.gov/

Current News:

Razorback Sucker spawning again in Grand Canyon http://cronkitenewsonline.com/2014/06/so-long-sucker-not-so-fast-endagered-razorback-sucker-makes-comeback/

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